

Stakeholder Justification Paper – Emissions reduction	
Output/Commitment Title	We will reduce our business carbon footprint ahead of government targets.
Detail	We will work towards meeting net zero emissions targets, maintaining high levels of safety, taking into account policy, markets and technology. We will measure and review our progress to appropriately plan work beyond 2031 and reach 2050 targets.
Targets (more stretching than GD2?) yes	SBTi aligned - Reduce Scope 1 Business Carbon Footprint by 58% by 2034 (SBTi-aligned) from a 2024 baseline Reduce shrinkage by 16% by 2031 from a 2026 baseline, and 22% reduction from a 2024 baseline
Strategy Document/ Business Plan Section	Climate resilience Strategy – Environmental Action Plan – BP: Supporting Net Zero – BP: Environmental Strategy – BP: Climate Resilience Strategy
Cost & Bill Impact	
Proposed Funding	Predominantly base.
Benefits & risks	
Summary of benefits	<p>Summary: As a transporter of a fossil gas which is a major contributor to climate change both as its transported form (methane) and as exhaust gases when burnt (carbon dioxide) we have a huge reputational and moral responsibility to minimise our own business carbon footprint. In doing so we would secure our credibility as a responsible business worth investing in.</p> <p>Direct financial benefits: The initial costs of major actions such as decarbonising the operational fleet may be seen as prohibitive. Becoming more energy efficient will provide some savings. Achieving a reduction in leakage is linked to incentives.</p> <p>Societal benefits: The financial and social benefits are huge. Any action that contributes to a lowering of emissions should be seen as an avoidance of social and economic chaos in the remaining decades of this century. We will use the Treasury Green Book figure for carbon to calculate the benefits of taking action.</p>
Summary of risks	<p>Not taking action to reduce business carbon footprint would be a reputational disaster.</p> <p>The greatest contribution we could make would be to replace all our diesel vans and lorries with non fossil fuel alternatives. We are limited however by technology and market maturity. Our vehicles have energy requirements to meet their duty cycles that cannot be provided by battery electric systems. We need the hydrogen fuel cell vehicle market and refueling infrastructure to mature rapidly within the price control period if we are going to have any hope of meeting the Science Based Targets Initiative emissions reduction targets for GD3. In reality, we expect to be above the target line and have to catch up in GD4. We are reliant on external forces beyond our control. We need government decisions on green gas to increase the blend of hydrogen and biomethane in our system that would reduce the emissions associated with our own use of gas.</p>
Stakeholder voice - Golden thread	
Engagement method (what and who)	We have to explain to stakeholders that we are doing our best in difficult circumstances.... unlike some other GDNs we are pioneering partners in the movement to create a hydrogen powered commercial and heavy haulage transport sector. We are enthusiastic partners in Hyhaul, Next Generation Electrolysis and the Exeter hydrogen hub, and we are very open to adapting our fleet as opportunities arise. These new non fossil fuel alternatives however are very expensive. There is no residual market (sole traders buying our used vans) for electric vans.... yet. The 2030 ban on ICEs will make a big difference eventually. We want our stakeholders to support us in asking Ofgem/government

for the funding and legislative drivers to enable a hydrogen based commercial transport ecosystem.

Stakeholder Views (what they said, regional differences and how we responded)

Opinions, views: Customers - Business customers recognise WWU's vital role in achieving net zero, especially in industrial sectors like transportation and shipping. They emphasise the need for significant infrastructure investment and appreciate the focus on innovation and efficiency to reduce costs and emissions. Customers also value WWU's support for vulnerable individuals. However, there are concerns about hydrogen technology and whether investments will lead to savings or ongoing costs. Public awareness of the transition to low and no carbon heating is low, highlighting the need for awareness campaigns. Customers call for long-term planning beyond net zero, aiming for carbon-negative activities. Public trust and education are crucial, with stakeholders advocating for clear communication to empower consumers to reduce emissions. Tailored, region-specific approaches and engaging community organisations are seen as effective strategies for sustainable change.

Government & Local Authorities stress the importance of collaborating on biodiversity initiatives and local nature recovery strategies. They request WWU to provide resources for training and scenario exercises to share best practice around reaching net zero, as well as supporting Local Area Energy Plans (LAEPs) with transparent data. The Welsh Government's ambitious emission reduction targets require clear policies and collaboration amongst utilities. Wales must also consider the global impact of its actions, as outlined in the Well-being of Future Generations (Wales) Act 2015. Cross-sector innovation and collaboration with other utilities and local authorities are seen as key to achieving net zero. Stakeholders emphasise the need for government-led strategies, clear directives, and funding to achieve significant changes.

Energy Networks believe collaboration will be essential to reach a net zero energy system and emphasise the need to focus on whole systems modelling and evidence-based strategic planning. Additionally, they have shown support for WWU's high standards of health and safety, as demonstrated by their accreditations and their efforts to support customers in transitioning to green energy. There is a call for energy companies to build an evidence base for hydrogen and other low-carbon technologies, and to address customer mistrust towards these innovations.

Overall Stakeholders emphasised the importance of WWU's role in the transition to net zero and cleaner energy, highlighting the need for collaboration, leadership, and transparency. They called for deeper partnerships with local authorities to support local energy plans and address consumer confusion. Concerns were raised about the ambition of WWU's operational targets and the readiness of the government for significant changes by 2030. Attendees endorsed funding for net-zero-related activities, particularly in hydrogen and biomethane, and suggested collaborative work on clean fuel vehicles and sustainable local energy planning.

Associated facts: No government decision on Hydrogen for domestic heating until 2026. We continue to trial hydrogen vans.

Hydrogen vehicles

It's likely that hydrogen vans whether fuel cell (or in future, combustion) will need to refuel daily, even when 700 bar refuelling is available.

Refuelling opportunity – hydrogen

Basic modelling, done by Inseego on three locations that were related to HAR2 funding applications for electrolyzers and hydrogen refuelling stations (HRS). Any WWU vehicle that stops within a 5-mile radius of the defined location has a

potential (hydrogen) refuelling opportunity. Clearly, we can change the radius to suit the geography if we wish.

HyHAUL

This will see 3 x public-access Hydrogen Refuelling Stations (HRS) developed at Avonmouth, and probably Magor and Swansea to refuel (initially) 30 articulated tractor units - hope to reach agreement for WWU to take 2.

Kick-off is scheduled for Q1 2026; the money must be spent by then.

Hydrogen will come from two different electrolyzers and will be delivered to the HRS by articulated tube trailer. Refuelling will be chilled and be possible in a few minutes.

The consortium is extremely keen to secure additional hydrogen demand to help reduce costs. The notional target is to grow to 300 HGVs at 5 years; the consortium hadn't initially considered vans, so is very interested to secure demand from WWU.

Hydrogen demand model

Very basic demand model shows how a cluster of hydrogen fuelled vehicles could develop within WWU's fleet around a specific refuelling location over a period of years. The numbers can be flexed to suit what is realistic at any given depot location. It includes vans, HGV's and mobile plant/other assets, the latter for repex sites assuming that we will have an on-site 'hub' for power generation.

GD3 case

Our minimum case could be to develop a cluster of vans around each of the three HyHAUL refuellers, starting in 2026; a higher-ambition case to develop an additional one at Exeter (say, from 2028) with further clusters to follow wherever a HAR2 application is successful and delivers a refueller.

The basic case could give us 100 hydrogen fuelled vans across 3 locations by 2030. We might have a small number of (non-HyHAUL) HGV's too but that will need work.

With fleet replacement running at 200 a year, that's a low percentage – so we should consider supplementing by BEV wherever practicable – even if those BEV's are then replaced by hydrogen vans in GD4.

Replacement programme

The necessity to cluster around an HRS means it won't be possible to treat hydrogen vehicles as we do diesel – at least until a substantial HRS network develops. We may have to accept that the HRS network is likely to remain only skeletal well into GD4.

We will need to operate the replacement programme in a different way: putting groups of hydrogen vans into a depot and cascading newer diesel vehicles into other areas where there is no hydrogen infrastructure.

Information

Whether BEV or hydrogen, moving to ZEV is going to have a significant impact on Ops. This needs to be communicated fairly soon.

We will shortly go out to tender for an Innovation project to develop a 'Total Cost of Operation' model to compare all aspects of BEV and hydrogen vehicle operation against the diesel benchmark.

Depot refuelling

In theory, it's possible to have our own at relatively small scale. However, the costs are high and there will be compromises.

A 700 bar refueller offering ambient temperature refuelling is available – it costs £0.5m, would have an initial life of 10 years and requires a 63A 3-phase power supply. It would require a footprint of c. 16m x 12m. It could cope with multiple vehicles (theoretically up to 20), but we would need to add gas chilling for really fast

refuelling, otherwise 20-30 minutes.

Fuel supply would be via articulated tube trailer (left on site – it's this that takes up most of the space).

The refueller could be readily relocated to another suitable depot when/if an HRS opens nearby.

Conflicts: There is a split of stakeholders who believe our 2030 targets are unambitious vs those who question the governments readiness for significant change by the 2030s. Despite a largely positive response to WWU's engagement on hydrogen from all stakeholder groups, there is a general lack of awareness amongst domestic customers/ consumers. Additionally, innovation has been repeatedly sighted as important to developing solutions to reduce carbon emissions but there are concerns about the level of innovation, areas for innovation and long-term cost to consumers of innovation.

Regional differences: South Wales stakeholders a strong interest in developing local energy plans and forming deeper partnerships with local authorities, reflecting a collaborative approach towards net zero. Conversely, stakeholders in some parts of South West England are more cautious, expressing concerns about the practicality and cost implications of transitioning to green gases like hydrogen.

There are concerns amongst rural consumers about being left behind in the transition, with stakeholders stressing the importance of ensuring that changes are communicated and implemented efficiently to avoid disparities between urban and rural regions.

There appears to be more stakeholder support for greener electrification, over hydrogen integration, in south west England as opposed to Wales.

Options considered: After engaging with our varied stakeholder groups we considered the following options when developing our commitment to reduce our carbon foot print

1. Continue the rate of progress we are making in GD2 towards a 2050 Net Zero target but with no defined pathway.
2. Achieve net zero emissions by 2050, taking actions based on the current market, technology, and policy available. Use a decision matrix that balances carbon reduction and cost, prioritise the most effective actions and monitor these actions against a defined 2050 pathway to help us understand our progress and plan for the GD4 period (2031-2036), when conditions are expected to improve.
3. Apply short and medium-term targeted actions on a monitored defined 2050 pathway, using a decision matrix to prioritise actions that give us the best chance of achieving net zero by 2040

How we responded: Given the current position of government, a lack of policy and the time to invest in innovations to support a carbon reduction ahead of targets, balancing this against the cost to consumers, we are opting to go with option 2. This option means we can still make progress towards our net zero ambition during the GD3 period, exploring innovative solutions as they arrive without excessively increasing the burden on consumers. We feel this approach meets customers and stakeholders expectations and sets us up to make significant advancements toward the end of GD3/ start of the GD4 period. This is evidenced by our Business Plan Acceptability Research (1,251 online and 150 in person 20-minute interviews) where 91% of participants found this commitment to be acceptable.

Performance	
GD2 Performance, Benchmarking/ Industry comparison	In GD2 we had a long term science based target but no clue as to how to get there. We now have a medium-term 2034 target which is described by an emissions reduction graph - we can monitor progress against this – how far above the line are we at any given time? Progress in business areas – fleet, shrinkage, operations exc. Transport, procurement can individually be measured against the line showing the relative contributions of each. We aim to develop more accurate scope 3 reporting relying less on spend-based calculations and using primary units.
Deliverability & Whole Systems Impact	
Deliverability & viability implications	Progress on this will be closely monitored through the Ofgem KPI scorecard – BPDC (monthly), RRP, annual environmental report. Some parts of the business will have phased actions. We have yearly overall targets to a 2031 and 2034 target so we can monitor progress. We do not think we will be on the trendline and will have to catch up – severely reduce emissions – in GD4 when more options will be available to us. Risks are all bound up in government policy and market maturity on hydrogen and green gas alternatives. We will do the best we can given the constraints we face.

Triangulation scorecard

Our engagement scoring methodology leverages the information from the HM Treasury's Magenta Book, Quality in Qualitative Evaluation framework and various weighing methodologies used by networks to assess how much impact each piece of evidence should have on their decision-making process.

Each piece of evidence is given a score between 0-2 against a scoring criteria including *Relevance to topic*, *Level of stakeholder knowledge*, *Quality of engagement*, *Rigour of feedback collection* and *Credibility of analysis and interpretation*.

The table below outlines how the evidence used to produce this document scored against each criteria and its overall score. An average and modal score is then provided, which is associated to a grading system that demonstrates the feedback robustness and quality.

Document Name	Score					Final Score
	Relevance to Topic	Level of Stakeholder Knowledge	Quality of Engagement	Rigour of Feedback Collection	Credibility of Analysis and Interpretation	
2023-The-Trussell-Trust-Hunger-in-the-UK-report-web-updated-10Aug23	0	2	2	2	2	8
_NESO engagement event	1	2	2	1	2	8
Powering Up Britain announcements	1	2	2	2	2	9
11920 CR Plus SWIC Cluster Report	2	2	2	2	2	10
20230213 - HJ - HyCymru and Wales Hydrogen Infrastructure Group	0	2	2	1	2	7

20240605_Draft Technical Report_Denbighshire	2	2	2	2	2	10
20240617_LAEPTechnical_Report_Wrexham	2	2	2	2	2	10
220209 DAR St. Athan Hydrogen Aviation Cluster Workshop	0	2	2	1	2	7
220722 DAR NIC and Bristol City Council	0	2	2	1	2	7
3037 LCT Tracker W4 Report WWU FV	2	2	2	2	2	10
3039 LCT Tracker W5 Report WWU FV2	2	2	2	2	2	10
3564 WWU Customer Business Priorities FV2	2	2	2	2	2	10
3636 WWU Customer Priorities Report_Debrief_v3	2	2	2	2	2	10
3830_NEA_Fuel-Poverty-Monitor-Report-2022_V2-1	0	2	2	2	2	8
BECG - What Politicians Think About Net Zero and Green Economy 2022	2	2	2	2	2	10
Biodiversity Stakeholder Meeting Report 28.06.24	2	2	2	2	2	10
carers-week-2022-make-caring-visible-valued-and-supported-report_final	0	2	2	2	2	8
CCC - Reducing emissions in Wales	2	2	2	2	2	10
Ceredigion LAEP Draft A	1	2	2	2	2	9
child-poverty-strategy-for-wales-2024	0	2	2	2	2	8
Compact Hybrids - Customer Research - Final	2	2	2	2	2	10
consultation-just-transition-framework	2	2	2	2	2	10
Customer-of-the-Future-2025-ybs64c	2	2	2	2	2	10

CVS-and-Community-Resilience-Executive-Summary-FINAL	0	2	2	2	2	8
DAR - IM - 220511 - Future leap - The Future of Hydrogen South West Event - Burgess Salmon offices Bristol	0	2	2	1	2	7
DAR - LG - 280623 Welsh Gove HyRES Guide Review	0	2	2	1	2	7
DAR - People Homes Conference 2023	0	2	2	1	2	7
DAR - Welsh Government Hydrogen Trials meeting	0	2	2	1	2	7
Digital.utility.co.uk (2024: The year of the LAEP)	1	2	2	2	2	9
ENA External Stakeholders Insight Report v1.1	2	2	2	2	2	10
ena-innovation-strategy-update_final	2	2	2	2	2	10
Energy Networks Innovation Strategy 2022	2	2	2	2	2	10
EUSP Council Dec 23_ Delivery Board Briefing	0	2	2	2	2	8
Final version WWU - Critical Friends Panel - Feb 2023 - Feedback Report	2	2	2	2	2	10
House of Commons - Support for Innovation to Deliver Net Zero	1	2	2	2	2	9
HyRES Open event summary report v2 23-01-26	0	2	2	2	2	8
ICS-UKCSI-Exec-Summary_Jan22_INTERACTIVE-h2d26m	2	2	2	2	2	10
June 2022 - Hybrid Working Policy	0	2	2	2	2	8
LAEP Technical Report Merthyr Tydfil DRAFT 160524	1	2	2	2	2	9

LAEP_BG_Technical-report_v1.1DRAFT-REVIEW_20240604	1	2	2	2	2	9
LAEP_Flintshire_Technical-report_v1(DRAFT-REVIEW)_20240611	1	2	2	2	2	9
LCP Delta - Online consultation responses summary	2	2	2	2	2	10
LCT Tracker results for WWU FV	2	2	2	2	2	10
Marie Curie Quality Account Report 22-23	0	2	2	2	2	8
Minutes - Council 14.12.23	0	2	2	2	2	8
NEA Cymru - VCMA DAR	0	2	2	1	2	7
NEA-Impact-Report-2023-FINAL-1	0	2	2	2	2	8
Neath Port Talbot LAEP Technical Annex - Client V1	2	2	2	2	2	10
Non-Domestic Consumer Research Report V Final for siteNov 2022	0	2	2	2	2	8
Ofgem-consumer-standards - NEA Response	0	2	2	2	2	8
HyRES Open event summary report v2 23-01-26	0	2	2	2	2	8
PE21199 Understanding consumers' attitudes to safety measures when using 100_ hydrogen in the home v1.0	1	2	2	2	2	9
Permit Schemes Statutory Guidance July 2022	0	2	2	2	2	8
Powys LAEP Draft A	1	2	2	2	2	9
PSR Code Group Report. DRAFT w exec summary 21.11.23	0	2	2	2	2	8
RCT LAEP Technical Report DRAFT 280524	1	2	2	2	2	9

Report - CCC - Delivering a reliable decarbonised	2	2	2	2	2	10
RP-FGS-Monmouthshire Technical Report-070624-DRAFT-ISSUED	1	2	2	2	2	9
RP-FGS-Torfaen Technical Report-240520-DRAFT-ISSUED-v2	1	2	2	2	2	9
Safeguarding the switch to domestic hydrogen WWU Report 1.0	0	2	2	2	2	8
Stakeholder workshop - Actions Responsibilities P2 - PRESENTATION PACK - CCR_bilingual	1	2	2	2	2	9
Stakeholder Workshop - Baseline and setting p_Lewis Garvey	1	2	2	2	2	9
Swansea LAEP Technical Annex - V2 - Client Copy1 - WWU Feedback	2	2	2	2	2	10
Sweco workshop notes_waste and carbon	2	1	1	1	1	6
Technical Report Cardiff DRAFT 2024_05_24	2	2	2	2	2	10
Technical_Report - Gwynedd draft issue 07.06.24	1	2	2	2	2	9
Technical_Report_Angles ey_draft issue 14.6.24	1	2	2	2	2	9
Technical_Report_Caerphilly_v.1(d)	1	2	2	2	2	9
Technical_Report_Vale of Glamorgan_2024_05_24	2	2	2	2	2	10
UK-Hydrogen-Strategy_web	1	2	2	2	2	9
UKRI Culture of innovation_Full report_Oct 2023_Pdf_version	0	2	2	2	2	8

UKRI-141123-EnablingNetZeroPlanUKIndustrialClusterDecarbonisation	1	2	2	2	2	9
UKRI-PA-InnovationCultureReport	0	2	2	2	2	8
VCMA Collaborative Report Year 1 21-22	1	2	2	2	2	9
VCMA Collaborative Report Year 2 22-23	1	2	2	2	2	9
VCMA Year 1 Showcase Stakeholder Workshop - Feedback Report	0	2	2	2	2	8
WGP Hydrogen Strategy v2.0 (Summary and Technical Reports) FINAL	2	2	2	2	2	10
Workshop - Actions & Responsibilities P2 - PRESENTATION PACK - NW_shared	1	2	2	2	2	9
Workshop 2 Summary - Futureproofing the networks	0	0	2	2	2	6
Workshop 4 Summary - Transforming how networks interact with industry	0	0	2	2	2	6
Workshop 6 Summary - Network investment	1	0	2	2	2	7
WWU - Critical Friends Panel - Feb 2024 - Feedback Report v5	1	2	2	2	2	9
WWU Biodiversity Stakeholder Workshop Feedback Report	2	2	2	2	2	10
WWU Business Panel_full report with appendix	2	2	2	2	2	10
WWU Citizen Panel full Report_V1	2	2	2	2	2	10
WWU Citizens Panel report Decarbonisation of home heat March 2022 FINAL	2	2	2	2	2	10

WWU Customer Satisfaction_full report	0	2	2	2	2	8
WWU Customer Service Trends Secondary Research - Findings report - Final	2	2	2	2	2	10
WWU Employer of Choice Qualitative Follow-up Findings report v1	0	2	2	2	2	8
WWU FW strategy workshop 180721 final	0	2	2	2	2	8
WWU GD3 Business Planning Workshop Feedback Report	2	2	2	2	2	10
WWU LAEP Stakeholder Workshop Feedback Report	0	2	2	2	2	8
WWU qual priorities report FINAL	2	2	2	2	2	10
WWU Report Cardiff November 2022 LW Comments	1	2	2	2	2	9
WWU Safety Stakeholder Workshop Feedback Report	1	2	2	2	2	9
WWU SSMC response – 6th March	2	2	2	2	2	10
WWU Sustainability Strategy Workshop - Feedback Report	2	2	2	2	2	10
WWU Vulnerability Panel Report_V3_060923	1	2	2	2	2	9
WWU_EVP_Insights_Report_Aug22_v1	0	2	2	2	2	8
WWU_Improving the CEX research programme_Stage 1_Report of findings_17.01.23	0	2	2	2	2	8
Average Score of Sources						8.81
Mode						10

Score	Grade	Description
0-3	Poor	Feedback should not be used for triangulation as it does not meet the minimum quality standards.
4-6	Average	Feedback could be used for triangulation but possible lacks robustness.

7-8	Good	Feedback meets the standards necessary for credible triangulation.
9-10	Excellent	Feedback meets the best standards of rigour and quality.